March 25, 1930. C. MORGANA 1,751,746

DOOR CONSTRUCTION

Filed Jan. 3, 1927 2 Sheets-Sheet 1

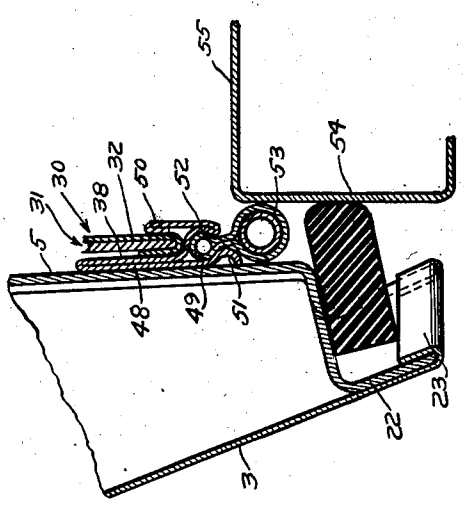


Fig 6

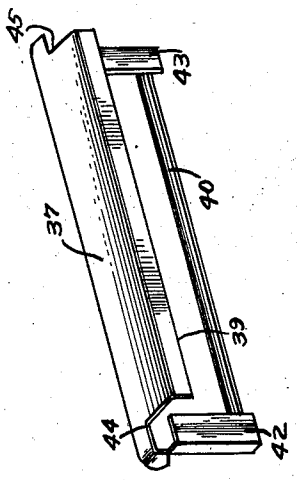


Fig 5

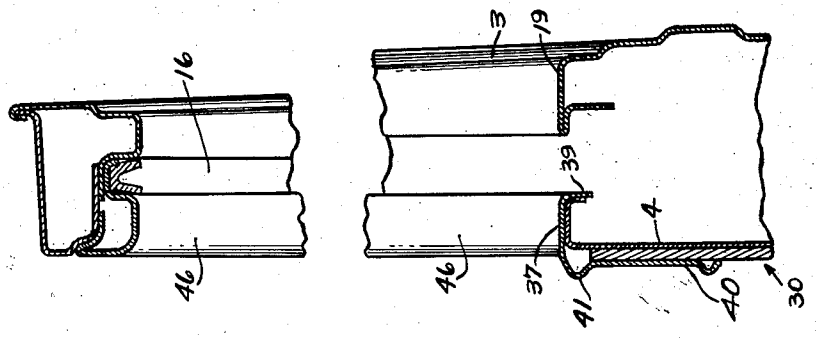


Fig 2

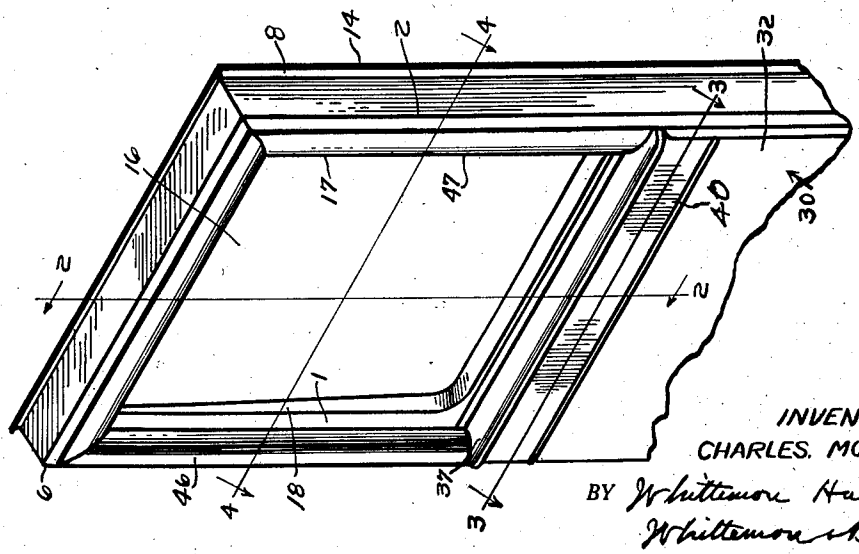


Fig 1

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DOOR CONSTRUCTION

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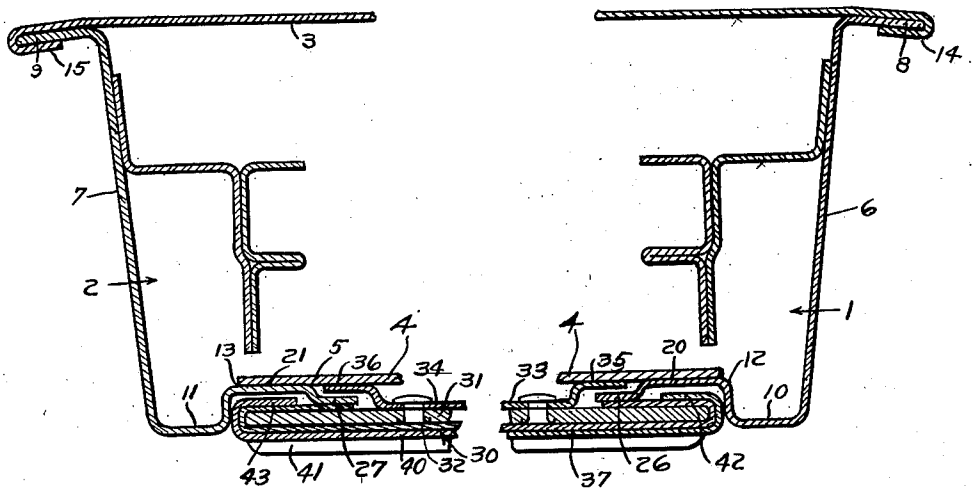


Fig 3

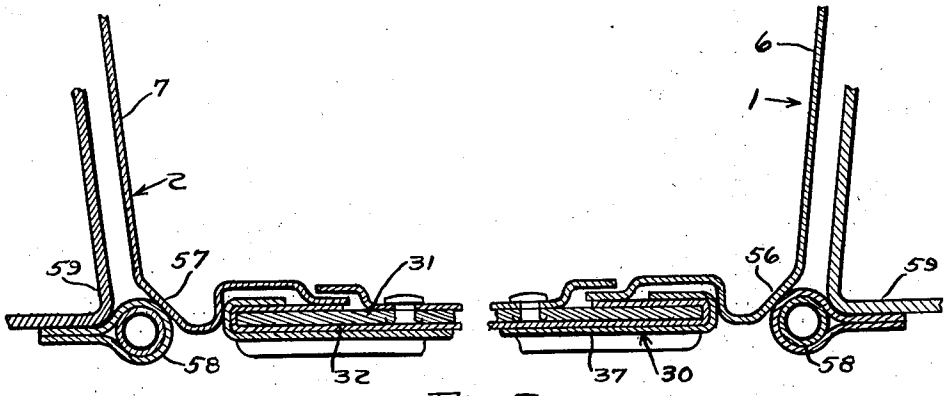


Fig 7

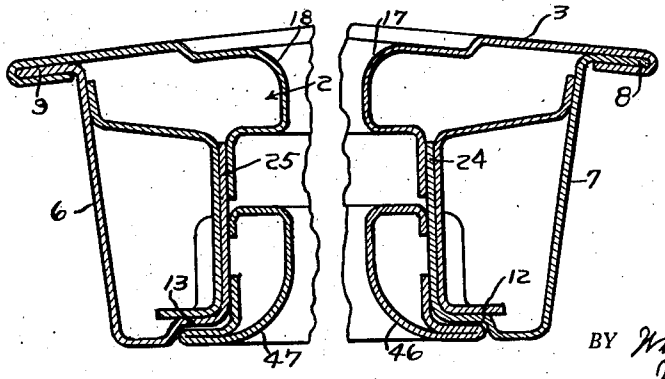


Fig 4

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Patented Mar. 25, 1930

1,751,746

UNITED STATES PATENT OFFICE

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DOOR CONSTRUCTION

Application filed January 3, 1927. Serial No. 158,750.

This invention relates generally to door constructions for vehicle bodies and consists of certain novel features of construction, combinations and arrangements of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a fragmentary perspective view of a door embodying my invention.

Figure 2 is a vertical sectional view through the garnish molding assembly taken on line 2—2 of Figure 1.

Figure 3 is a cross sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a horizontal sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a detail perspective view of the garnish molding.

Figure 6 is a fragmentary vertical sectional view through the lower portion of the door.

Figure 7 is a cross sectional view through a slightly modified form of construction.

Referring now to the drawings, 1 and 2 respectively are laterally spaced pillars, 3 is an outer panel, and 4 and 5 respectively are spaced upper and lower inner panels of a door embodying my invention. As shown, the side walls 6 and 7 respectively of the pillars are substantially parallel and are provided at their outer edges throughout their length with outwardly extending lateral flanges 8 and 9, while the inner walls 10 and 11 respectively of the pillars extend laterally inwardly from the side walls 6 and 7 at the inner edges thereof and are provided throughout their length at their inner edges with inwardly offset rabbet portions 12 and 13 that are substantially L-shaped in cross section. The outer panel 3 overlaps the lateral flanges 8 and 9 of the pillars and is provided at the side edges thereof throughout its length with return-bent flanges 14 and 15 respectively that are secured to said lateral flanges 8 and 9. Preferably the outer panel 3 is provided at its upper end with a window opening 16 and is provided at the side and bottom edges of this opening with inturned lateral flanges 17, 18 and 19 respectively. As shown, the upper and lower inner panels 4 and 5 are secured at their ends to the inner sides of the bases 20 and 21 of the rabbet portions 12 and 13 of the pillars and cooperate therewith to provide a rigid frame structure for the door. Preferably the upper panel 4 is secured to the pillars at a point immediately below the window opening 16 in the outer panel and serves as a support for the lock and window lifter mechanisms (not shown) of the door, while the lower panel 5 is secured to the pillars at the lower ends thereof and is preferably provided at its lower edge with an inwardly offset depending flange 22 to which a return-bent flange 23 at the lower edge of the outer panel is secured.

In the present instance the bases 20 and 21 respectively of the rabbet portions of the pillars are provided from the lower edge of the window opening 16 to the upper ends of the pillars with inwardly extending lateral flanges 24 and 25 respectively, and are provided from the lower edge of the window opening 16 to the upper edge of the lower inner panel 5 with outwardly offset flanges 26 and 27 respectively. As shown, the lateral flanges 24 and 25 are substantially parallel to the side walls 6 and 7 respectively of the pillars and are rigidly secured, preferably by a welding operation, to the inturned lateral flanges 17 and 18 respectively of the outer panel, while the offset flanges 26 and 27 are substantially parallel to the upper inner panel 4 and serve as retainer strips or anchorage means for a panel 30 of trimming material. Preferably this panel 30 comprises a backing 31 of substantially rigid material, and a covering 32 of fabric. As shown the cover 32 is folded around the edges of the backing 31 and is secured to the rear face thereof, while suitable metal attaching strips 33, 34 respectively are rigidly secured to the rear face of the backing 31 adjacent to the side edges thereof and have longitudinally extending inwardly offset flanges 35 and 36 respectively that engage the inner faces of the offset flanges 26 and 27 respectively of the pillars. Thus the outer face of the panel 30 of trimming material is substantially flush with the

inner walls 10 and 11 respectively of the pillars.

With this construction a strip 37 of garnish molding is preferably used at the lower edge of the window opening 16 to conceal the upper edges of the upper inner panel 4 and of the panel 30 of trimming material, while a strip 38 of molding is preferably used upon the lower panel 5 of the door to hold and to conceal the lower edge of the panel 30 of trimming material. As shown, this garnish molding 37 comprises an imperforate channel-shaped strip of metal that is arranged in inverted position with the depending flange 39 at the inner edge thereof overlapping the upper inner edge of the inner panel 4 and the outer depending flange 40 thereof overlapping the upper outer edge of the panel 30 of trimming material. Preferably this depending flange 40 is provided at its upper edge with an outwardly projecting longitudinally extending open return-bent portion 41 constituting a bead, and is provided at its opposite ends with inwardly extending open return-bent portions 42 and 43 respectively which receive the edge portions of the panel 30 of trimming material. As shown, the garnish molding 37 is cut away at its opposite ends as shown at 44 and 45 respectively and is held in assembled position by suitable strips 46 and 47 respectively of molding that in turn are detachably secured to the pillars at the sides of the window opening 16.

As shown in Figure 6 the strip 38 of molding comprises a substantially flat attaching portion 48, a clamping portion 49, and a retainer flange 50. Preferably the clamping portion 49 comprises cooperating transversely curved portions 51 and 52 respectively at the lower end of the attaching portion 48, while the retainer flange 50 extends upwardly from the uppermost clamping portion 52 in substantially parallel relation to the flat attaching portion 48. Thus the lower edge of the panel 30 of trimming material is received between the attaching portion 48 and retainer flange 50, while the clamping portion 49 holds a suitable wind cord 53 for engagement with the outer wall 54 of the body sill 55.

If desired, the pillars 1 and 2 may be provided throughout their length at the junction of the side and inner walls thereof with bevelled portions 56 and 57 respectively (see Fig. 7) that may engage the usual wind cord 58 extending longitudinally of the door jamb 59 and thereby provide a substantially flush weather tight joint between said jamb and door when the latter is in closed position.

In the process of construction the panel 30 of trimming material may be readily applied to the door by first bowing the panel outwardly and then slipping the inturned flanges 35 and 36 in rear of the offset flanges 26 and 27. The panel 30 will then fit snugly in the rabbet portions 12 and 13 and may be readily held in place by applying the garnish molding 37 and molding strip 38 thereto.

Thus, from the foregoing description it will be apparent that the panel 30 of trimming material may be easily and quickly attached to the door and will be effectively held against accidental displacement. Moreover the arrangement is such that the garnish molding 37 may in turn be held in place by the molding strips 46 and 47 respectively. Hence the usual securing elements such as screws, bolts, and the like, and the usual openings or sockets therfor in the moldings and inner panel have been dispensed with entirely and, as a result, a neater finish for the door is obtained and a material saving in time, labor and expense has been effected.

While it is believed that from the foregoing description, the nature and advantage of my invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What I claim as my invention is:

1. In a door, the combination with laterally spaced pillars, upper and lower inner panels secured thereto, a panel of trimming material overlapping said inner panels aforesaid connections between said pillars and panel of trimming material including interlocking parts carried respectively by said pillars and panel of trimming material, and auxiliary holding means for said panel of trimming material including a strip of garnish molding carried by said upper inner panel and having a depending portion substantially parallel to said upper panel and overlapping an edge and the outer face of said panel of trimming material, and a strip of molding carried by the lower inner panel and having a portion substantially parallel to said lower panel and overlapping an edge and the outer face of said panel of trimming material.

2. A strip of garnish molding comprising a channel-shaped member having portions cut away at its opposite ends for receiving portions of pillars and the like, one of the flanges of the channel being provided at its opposite ends with inwardly extending open return-bent portions for receiving the side edges of a panel of trimming material.

3. A molding strip for doors and the like comprising a substantially flat attaching portion, transversely curved portions extending longitudinally of said attaching portion and adapted to hold a wind cord and the like, and a retainer flange for a panel of trimming material projecting from one of said transversely extending portions.

4. In a door, the combination with laterally

spaced pillars having inner walls provided for a portion of their length with inturned lateral flanges for attachment to portions of an outer panel, and provided for another portion of their length with outwardly offset flanges, a panel of trimming material overlapping said pillars, and securing means for said panel of trimming material including means secured to said panel of trimming material and engaging said offset flanges.

5. A molding strip for doors and the like comprising a substantially flat attaching portion having a flat closed return-bent portion, cooperating transversely curved portions extending longitudinally of said flat portions and adapted to hold a wind cord and the like, and a retainer flange for a panel of trimming material projecting from one of said transversely extending portions.

6. A molding strip for doors and the like comprising a substantially flat attaching portion having a flat closed return-bent portion, cooperating transversely curved portions extending longitudinally of said flat portions and adapted to hold a wind cord and the like, and a retainer flange for a panel of trimming material projecting from the transversely extending portion of the flat return bent portion.

7. A molding strip for doors and the like comprising a substantially flat attaching portion having a flat closed return-bent portion, cooperating transversely curved portions extending longitudinally of said flat portions and adapted to hold a wind cord and the like, one of said transversely curved portions being provided with a return-bent portion spaced from and overlapping one of said flat portions and constituting a retainer flange for a panel of trimming material.

8. In a door, the combination with laterally spaced pillars having inner walls, an inner panel secured to said inner walls, a panel of trimming material overlapping said pillars and inner panel, and a channel-shaped strip of garnish molding having its base portion enclosing the upper end portions of said inner panel and panel of trimming material, one of the flanges of the channel being provided at its opposite ends with inwardly extending open return-bent portions for receiving the side edges of said panel of trimming material.

9. In a door, the combination with laterally spaced pillars having inner walls, a panel of trimming material overlapping said pillars, and a channel shaped strip of garnish molding constituting a window sill having a portion enclosing the upper edge portion of said panel of trimming material and having a side of the channel provided at its opposite ends with inwardly opening return bent portions that embrace and receive the side edges of the panel of trimming material.

10. In a door, the combination with laterally spaced pillars having inner walls, a panel of trimming material overlapping said pillars, a channel shaped strip of garnish molding having a portion constituting a window sill enclosing the upper edge portion of said panel of trimming material, having a depending portion overlapping the outer face of the said panel of trimming material, having open return bent portions at opposite ends of said depending portions embracing the side edges of said panel of trimming material, and connections between said pillars and panel of trimming material including interlocking parts carried respectively by said pillars and panel.

11. In a door, the combination with laterally spaced pillars having substantially parallel side walls and inner walls extending laterally inwardly from said side walls and provided with inwardly offset rabbet portions, a panel of trimming material in said rabbet portions and substantially flush with said inner walls, and connections between said pillars and panel including offset flanges extending inwardly from said rabbet portions and clips rigid with the panel of trimming material and having offset portions overlapping the offset flanges aforesaid and holding said panel of trimming material in said rabbet portions.

12. A strip of garnish molding comprising a sheet metal member having a strip constituting a window sill member, a depending flange at one longitudinal edge thereof and constituting an apron for overlapping engagement with a face of a panel of trimming material, and open return-bent flanges at opposite ends of said depending flange opening inwardly and serving to receive and conceal upright edge portions of a panel of trimming material.

13. A strip of garnish molding comprising a channel-shaped member, one side wall of the channel being deeper than the other and being provided at its opposite ends with inwardly extending open return bent portions for receiving upright edge portions of a panel of trimming material.

In testimony whereof I affix my signature.

CHARLES MORGANA.